

Hawaii Department of Education
Assistive Technology
Guidelines

GENERAL GUIDELINES FOR ASSISTIVE TECHNOLOGY

Before the Individualized Education Program (IEP) meeting:

1. Review existing information regarding
 - the student's abilities,
 - educational tasks that are difficult because of the child's disabilities, and
 - interventions that have been implemented.
2. Determine effectiveness of interventions.
 - [Gather evidence](#) that the specified educational needs are being met within the least restrictive environment, and that the student's programming is appropriate with the strategies, modifications and/or devices that are in place, to the level of independence desired.
 - If the student has not made reasonable progress at a level that reflects his/her abilities and skills with existing interventions, identify those educational tasks and the alternative or additional interventions that the student may need.

(Refer to ASSISTIVE TECHNOLOGY CONSIDERATION ACTION STEPS on the following pages.)

At the IEP meeting:

3. Address "Does the student require assistive technology devices and services?" in the [CONSIDERATIONS WHEN DEVELOPING AN IEP](#) section of the IEP.
 - If the current interventions are working and assistive technology (AT) is not required, discuss evidence of student learning and proceed with the development of the IEP.
 - If AT is already being used effectively, this AT intervention **must** be described in the IEP. * (See [ASSISTIVE TECHNOLOGY IN THE IEP](#) for some examples of how AT is addressed in the IEP.)
 - If there has been a trial with an AT intervention and the IEP team determines that it is a requirement to meet the student's needs, this AT intervention **must** be described in the IEP. *
 - If the IEP team determines that AT should be tried, document as "Assistive Technology Service" in the Supplementary Aids and Services grid and describe what AT intervention will be tried, for what specific educational tasks, under what conditions, and the criteria for determining whether or not the need is met in the "Clarification of Services and Supports" section of the IEP.

After the IEP meeting:

4. Implement interventions.
5. Document the effect on student performance. If AT is being tried, refer to [resource materials](#) for examples of documenting the trial of new AT interventions. Be sure to complete and file the [Summary of Assistive Technology Interventions](#) in the student's confidential folder.
6. Review the IEP periodically, but not less than annually, and upon the request of an IEP member.

* Do not write the brand name of the device; rather, [describe the device in terms of its function and needed features](#).

Assistive Technology Consideration Action Steps

1. Is the student making adequate progress with current levels of support?

No – Go to question 2.

Yes – AT is not needed.



Action Step: Continue to use effective strategies.

Or

Yes – Student is currently using AT successfully.



Action Step: Document the need in the IEP and continue to use effective strategies.

2. Is there documentation of instructional strategies, task modifications, and/or other supports that have been tried to address the lack of reasonable progress?

No – Review evidence of progress.



Action Step: Gather documentation of instructional strategies, task modifications, and/or other supports for analysis.

Yes – Go to question 3.

3. Can specific tasks or objectives be identified for which AT is being considered?

No – Review evidence of progress.



Action Step: Identify the specific tasks or objectives with discrepancies between current and expected performance levels.

Yes – Go to question 4.

4. Has the team identified an AT intervention which could possibly enable the student to engage in the tasks more successfully?

No – Refer to the Assistive Technology Guidelines for examples of possible AT interventions to consider.



Action Step: Make selection. Request assistance from your district AT resource personnel if needed.

Yes – Go to question 5.

5. Is the AT intervention immediately available for the AT trial?

No – Check your grade level, department and campus resources.



Action Step: Arrange to construct, borrow or purchase AT intervention needed for trial. Request assistance from your district AT resource personnel if needed.

Yes – Go to question 6.

6. Has the team discussed criteria, duration, data collection, and responsibilities for the AT trial?



No – Discuss with team.

Action Step: If these decisions are made during an IEP meeting, add “Assistive Technology Service” in the *Supplementary Aids and Services* grid with agreements in the *Clarification of Services and Supports* section of the IEP. Document the proposed action in the Prior Written Notice under *Other Relevant Factors*.

Yes – Go to question 7.

7. Has the team met to review AT trial data?



No – Meet to review data.

Action Step: Analyze data and compare baseline performance to student performance with AT intervention over time.

Yes – Go to question 8.

8. Does the use of assistive technology enable the student to make reasonable progress in his/her IEP goals?



No.

Action Step: Document the results of the trial and resume program planning and adjustment.

Yes – Complete final action step.



Action Step: Include a statement of how the student will be using assistive technology in the IEP. The type of device or features is noted, rather than the specific device name (e.g., portable word processor vs. Neo) to allow for flexibility using different tools to meet IEP objectives.

- If AT is needed as part of specialized instruction, incorporate its use in the specific objectives(s) for which the student requires AT.
- If AT is needed to access and progress in the general curriculum, list a description of the AT as a Supplementary Aid.

Adapted from:

Zabala, J.S. (1994), *The SETT Framework*

Bowser, G.&Reed, P. (1998), *Education TECH points: A framework for assistive technology planning*, Oregon Assistive Technology Project. Roseburg, OR

LEGAL REQUIREMENTS

Federal and state laws require IEP teams to consider the assistive technology needs of every student receiving special education services. Assistive technology is addressed in three subsections of the Individuals with Disabilities Education Act (IDEA) and Chapter 60 of the Hawaii Administrative Rules.

Definitions

An assistive technology device is defined as:

"... any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of children with disabilities. The term does not include a medical device that is surgically implanted, or the replacement of such device. (34 C.F.R. Section 300.5; §8-60-2)"

An assistive technology intervention is a tool or strategy that allows a student to do an educational task he/she could not do without the tool at the expected performance level. This includes a [broad range of interventions](#) as simple as a hand-held calculator for math assignments or as complex as an "eye gaze" system to access a computer.

Assistive technology differs from educational technology. Assistive technology is **compulsory** if needed to enable students with disabilities to **access** the curriculum, whereas educational technology is one of many instructional tools available for teachers to use at their **discretion** to enhance teaching, reinforce learning and **supplement** curricular activities.

Assistive technology service means any service that "... directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. This term includes:

- (a) The evaluation of the needs of a child with a disability, including an assistive technology functional evaluation of the child in the child's customary environment;
- (b) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;
- (c) Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices;
- (d) Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;
- (e) Training or technical assistance for a child with a disability or, if appropriate, that child's family; and
- (f) Training or technical assistance for professionals (including individuals providing education or rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of children with disabilities." (§8-60-2)

An **assistive technology functional evaluation** is an ongoing process of considering assistive technology interventions, which is conducted in the child's customary learning environment by a team of people knowledgeable about the child, and is relevant to the provision of a free appropriate

public education (FAPE). An assistive technology functional evaluation may include the following:

1. Trial period of the assistive technology intervention
2. Documentation of the effectiveness of the AT intervention
3. Determination of the necessity of an AT intervention.

The evaluation of the appropriateness and effectiveness of assistive technology interventions is an ongoing, collaborative process due to the changing educational needs of the child. The IEP team must consider the current levels of performance, the anticipated levels of performance and the difference the intervention may make in achieving the anticipated levels. Sometimes solutions may not be different equipment but different instructional strategies and/or modifications in using what is already in place.

FAPE Requirements

Each public agency must ensure that assistive technology devices or assistive technology services, or both, are made available to a child with a disability if required as a part of the child's special education, related services or supplementary aids or services. On a case-by-case basis, the use of school purchased assistive technology devices in a child's home or in other settings is required if the child's IEP team determines that the child needs access to those devices in order to receive FAPE. (34 C.F.R. Section 300.105; §8-60-6)

The determination by the IEP team that assistive technology is required as part of FAPE is based on evidence that the tool or strategy enables the student to do a task at the expected performance level he/she could not do without the tool. Evidence is gathered as the IEP is implemented. This ongoing process of evidence-based instruction can be part of an assistive technology functional evaluation.

Individualized Education Program

In the development, review and revision of each child's IEP, the IEP team must consider whether the child requires assistive technology devices and services. (34 C.F.R. Section 300.324 (a)(2)(v); §8-60-48 (2)(E))

Consideration does not imply a mandate for the actual provision of an assistive technology device and/or service; however, teams must address the student's performance in relation to the curriculum and specially designed goals and objectives. If a student is functioning at expected performance levels without AT interventions, the conclusion that AT is not needed at this time can be easily made.

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If the participants on the IEP team make an evidence-based determination that assistive technology is required to enable a student with disabilities access the general education curriculum to the maximum extent possible and to make reasonable progress in meeting agreed upon educational goals, the IEP must include a specific statement describing the need for assistive technology.

STANDARDS OF PRACTICE IN DETERMINING THE NEED FOR ASSISTIVE TECHNOLOGY

The provision of assistive technology devices and/or services is required if the child's IEP team determines it necessary in order to receive FAPE. Although the definition of FAPE has not been altered in reauthorizations of IDEA, case law interpretations have applied standards to analyze whether FAPE has been provided.

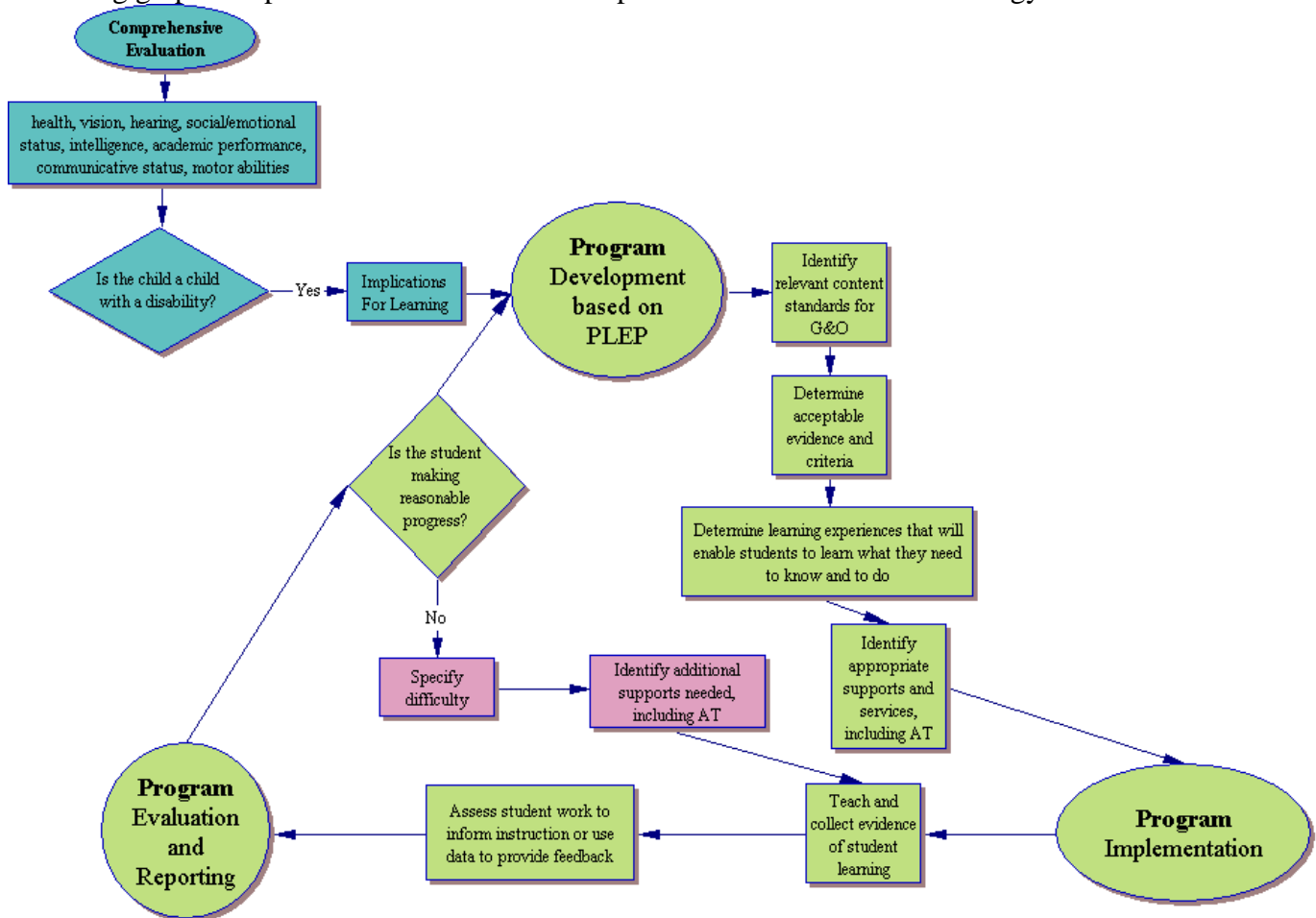
A two-part test was developed by the United States Supreme Court in *Board of Education v. Rowley*. (458 U.S. 176 (1982)) to determine if an educational program is appropriate.

- 1) whether there has been compliance with the procedural requirements of the IDEA; and
- 2) whether the IEP is reasonably calculated to enable the student to receive educational benefits.

The Supreme Court ruled that maximization of education benefit was not required under the Act. The Court further stated that the "'basic floor of opportunity' provided by the Act consists of access to specialized instruction and related services which are individually designed to provide educational benefit to the handicapped child." Although courts continue to apply the Rowley standard for analyzing whether FAPE has been provided, heavier emphasis is placed on actual outcomes and reasonable progress rather than just the opportunity for progress.

Determining the need for AT is part of the ongoing process of evidence-based decision-making that occurs in effective instruction. The scientific method of 1) defining the problem, 2) analyzing why it is happening, 3) developing a plan to address it, and 4) evaluating effectiveness of the intervention outlines a systematic approach to choose, implement and monitor effectiveness of instructional strategies. The following graphic expands on these four basic steps in terms of assistive technology consideration.

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Guiding questions to help IEP teams make appropriate decisions regarding the need for AT include:

- Are there educational tasks or activities we want the student to do at a level that reflects his/her abilities and skills that the student is not able to because of his/her disability?
- What has been tried to meet this need?
- Is it working? If the team agrees that the specified educational needs are being met within the least restrictive environment, and that the student's programming is appropriate with the strategies, modifications and/or devices that are in place, to the level of independence desired, there should be evidence to support the effectiveness and appropriateness of the interventions. The evidence may be in the form of work samples, classroom tests, formal testing, recorded observations, videotaping, or any other form appropriate to the child and his/her needs.
- Would the AT intervention enable the student to perform the tasks or master the objectives he/she could not without it?
- What will be tried? Under what conditions will it be tried?
- What are the criteria for determining whether or not the need is being met?
- Has the team considered alternatives starting from low to high tech, and low to high cost?

The following resource material and worksheets are made available to assist teams in making evidence-based decisions about assistive technology.

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[AT Checklist](#)

[AT Consideration Action Steps](#)

[AT Consideration in the IEP](#)

[Augmentative Alternative Communication Handbook](#)

[Comparative Datasheet](#)

[Comparative Datasheet Sample](#)

[Graphic Datasheet](#)

[Graphic Datasheet Sample](#)

[Recordkeeping For AT Consideration](#)

[SETT Worksheet](#)

[Summary of AT Interventions](#)

[Summary of AT Interventions Sample](#)

EXAMPLES OF ADAPTATIONS AND USE OF ASSISTIVE TECHNOLOGY

For a student who experiences difficulty with composing written material:

Instructional Strategies	Task Modifications	Adaptive or No/Low AT	Alternative or Mid/High AT
<ul style="list-style-type: none"> • Outlines • Webbing • Story Starters • Formulate sentences out loud • Utilize cross-age tutoring • Cooperative learning 	<ul style="list-style-type: none"> • Shorten assignment • Sentence shells • Provide key words • Allow more time 	<ul style="list-style-type: none"> • Study Carrel • Word Cards • Sentence cards • Pocket dictionary and thesaurus • Personal word book 	<ul style="list-style-type: none"> • Electronic dictionary and thesaurus • Spell checker • Software with macros • Talking word processor • Word prediction

For a student who experiences difficulty with the mechanics of writing:

Instructional Strategies	Task Modifications	Adaptive or No/Low AT	Alternative or Mid/High AT
<ul style="list-style-type: none"> • Tracing exercises • “Talk through” letter formation • Dot-to-dot • Multi-sensory instruction • Chalkboard practice • Avoid using short pencils • Utilize cross-age tutoring • Cooperative learning • Keyboarding instruction 	<ul style="list-style-type: none"> • Adapt tests to fill-in-the-blank, multiple choice or true/false • Allow more time • Shorten assignments • Photocopy notes • Change paper position • Change student position 	<ul style="list-style-type: none"> • Tape paper to desk • Clipboard to hold paper • Different writing tools • Pencil holders/grips • Different texture/color paper • Different line spacing • Acetate sheets w/markers • Talking pen • Stencils/templates • Rubber stamps • Magnetic letters • Slant board/easel • Wrist support • Arm stabilizer 	<ul style="list-style-type: none"> • Typewriter • Word processor • Tape recorder • Keyguard • Alternative input device for computer • Software providing macros • Spell checker • Talking word processor • Word prediction • Abbreviation expansion • Onscreen keyboard • Voice recognition

For a student who experiences difficulty with reading:

Instructional Strategies	Task Modifications	Adaptive or No/Low AT	Alternative or Mid/High AT
<ul style="list-style-type: none"> • story mapping • read aloud guests • multisensory instruction • structured study guides • utilize cross-age tutoring • cooperative learning 	<ul style="list-style-type: none"> • highlight key concepts • allow more time • shorten assignments • simplify text • use chapter outlines 	<ul style="list-style-type: none"> • study carrel • tactile letters/words • magnifying bars • colored acetate • word window • flash cards • highlighter • post-it flags • color coded paper clips 	<ul style="list-style-type: none"> • tape recorder • books on tape • Language Master • electronic dictionary • scanner with OCR • text-to-speech software • Reading Pen

For a student who experiences difficulty with calculating:

Instructional Strategies	Task Modifications	Adaptive or No/Low AT	Alternative or Mid/High AT
<ul style="list-style-type: none"> • number lines • mnemonic devices • multisensory instruction • color coding • utilize cross-age tutoring • cooperative learning 	<ul style="list-style-type: none"> • reduce number of problems • eliminate need to copy problems • enlarge worksheets • avoid mixing operations on a page • allow more time 	<ul style="list-style-type: none"> • study carrel • manipulatives • abacus • MathLine • flash cards • number stamps • magnetic numbers • personal chalkboard or dry erase board • number facts charts • raised or enlarged number line 	<ul style="list-style-type: none"> • calculator • calculator with printout • talking calculator • enlarged key calculator with keyguard • tape recorder with counting, number facts, formulas • switch-accessible arithmetic software

For a student who experiences difficulty with organizing:

Instructional Strategies	Task Modifications	Adaptive or No/Low AT	Alternative or Mid/High AT
<ul style="list-style-type: none"> • color coding • multisensory presentation of assignments • assignment sheets • reminder cards • post signs & label areas in room • peer support 	<ul style="list-style-type: none"> • Reduce number of assignments • Assign homework for one subject area per night 	<ul style="list-style-type: none"> • homework journal • pocket schedule • schedule on desk • appointment book • multiple pocket portfolio • study carrel • clipboard • post-it notes • color-coded paper clips • highlighter • storage cubicles • timer 	<ul style="list-style-type: none"> • electronic organizer • message recorder • tape recorded schedule and assignments • software with calendar and reminders

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[For a student who experiences difficulty with oral communication, refer to the Augmentative and Alternative Communication Handbook.](#)

ASSISTIVE TECHNOLOGY IN THE IEP

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After a need for assistive technology has been determined a statement describing how and why the support will be used to accomplish a particular goal and the anticipated frequency, location and duration of the support needs to be included in the IEP. This assures that the appropriate assistive technology will be made available. It is important to describe the type of device or needed features, rather than the specific device name (e.g., portable word processor, **NOT** AlphaSmart Neo) to allow for flexibility using different tools to meet IEP objectives. Assistive technology can be included in the IEP in a number of ways. Assistive technology interventions already in place can be described in the Present Levels of Educational Performance. It may appear as part of the student's annual goals and short-term objectives, or benchmarks. It may also be listed in "Supplementary Aids and Services" as specific accommodations and supports needed to enable the student with a disability to be educated with non-disabled students to the maximum extent appropriate. For example, the IEP might include such accommodations as the use of a word processor, use of a calculator, use of a hand-held spell checker and so forth. In addition, the IEP may specify an assistive technology service such as conducting a functional evaluation of a new assistive technology intervention or providing training to the student in the use of a specific assistive device. A description of the agreed upon assistive technology service can be recorded in the Clarification of Services and Supports.

An objective that includes assistive technology may indicate that the technology will be part of the conditions under which some academic or social skill will be acquired. For example, an IEP objective for a student with a learning disability in written expression may look like this:

Using a spell checker, Robert will compose three paragraphs on a given topic with 80% accuracy in the use of spelling, punctuation and grammar over 5 consecutive trials.

Activities leading to the mastery of this objective might include preliminary exploration of the word processing program, trials to learn effective use of the spelling checker, drill and practice in writing single paragraphs with gradually increasing degrees of accuracy.

Another type of objective may address a skill that is necessary for using assistive technology. Such a goal might appear this way:

Using a standard (QWERTY) keyboard, Diane will type 12 words per minute with no errors over 10 or more consecutive trials.

Activities designed to develop keyboarding skills would be implemented to help Diane master this objective.

Another type of objective might address a social issue like communication with peers.

Using an augmentative alternative communication system, Chris will respond appropriately to social inquiries from classmates 5 times out of 5 opportunities over 5 consecutive days.

Activities leading to the mastery of this objective might include training in the use of particular words and phrases on the communication device, drill and practice in responding with the device in structured settings, increasing accuracy in responding in structured settings, practice in unstructured conversational opportunities, and gradual achievement of accuracy in unstructured conversational settings with peers.

Related Service

Related services includes:

"...transportation, and such developmental, corrective, and other supportive services as are required to assist a child with a disability to benefit from special education, and includes speech-language pathology and audiology services, interpreting services, psychological services, physical and occupational therapy, recreation, including therapeutic recreation, early identification and assessment of disabilities in children, counseling services, including rehabilitation counseling, orientation and mobility services, and medical services for diagnostic or evaluation purposes. Related services also include school health services and school nurse services, social work services in schools, and parent counseling and training." (34 C.F.R. Section 300.34; §8-60-2)

Training and technical assistance to use an assistive technology device can occur as part of a related service that supports the student's educational program, like speech language or occupational therapy. For example, occupational therapy may involve determining correct positioning to take advantage of assistive technology and exercises to prepare the student to use a computer keyboard or a communication board.

Supplementary Aids and Services

Students with disabilities are guaranteed the right to placement in the educational setting which is the least restrictive environment. In order to be successful in the least restrictive environment, students are to be afforded whatever supplementary aids and services are necessary. Supplementary aids and services means aids, services and other supports that are provided in regular education classes or other education-related settings, and in extracurricular and nonacademic settings, to enable children with disabilities to be educated with non-disabled children to the maximum extent appropriate in accordance with sections 8-60-15 through 8-60-17. Among the supplementary aids that may allow a student to remain in a less restrictive environment are a variety of assistive devices that compensate for disabilities and allow the student to perform educational and social tasks.

Assistive technology is necessary as a supplementary aid if its presence (along with other necessary aids) supports the student sufficiently to maintain the placement, and its absence requires the student's removal to a more restrictive setting. For example, if a student with multiple physical disabilities can make independent educational progress on his or her IEP goals in the regular classroom with the use of an augmentative communication device and cannot make such progress in that setting without the device, then that device is a necessary supplementary aid.

An example of a statement that addresses assistive technology as a supplementary aid may be written as:

Mary will make oral presentations and participate in class discussions using an appropriate augmentative communication system.

An example of a statement of needed assistive technology services may be written in the Clarification of Services and Supports as:

Assistive technology services may include trials of new intervention tools, continued use of tools proven to be effective, monitoring of progress in the ongoing consideration of assistive technology and seeking consultation and training of new tools as needs arise.

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